

SEQUENCE LISTING

INFORMATION FOR SEQ ID NO:1:

SEQUENCE CHARACTERISTICS:

LENGTH:331

TYPE:amino acid

TOPOLOGY:linear

MOLECULE TYPE:peptide

SEQUENCE DESCRIPTION: SEQ ID NO:1

Asp Ser Asp Asp Arg Val Thr Pro Pro Ala Glu Pro Leu Asp Arg Met

1 5 10 15

Pro Asp Pro Tyr Arg Pro Ser Tyr Gly Arg Ala Glu Thr Val Val Asn

20 25 30

Asn Tyr Ile Arg Lys Trp Gln Gln Val Tyr Ser His Arg Asp Gly Arg

35 40 45

Lys Gln Gln Met Thr Glu Glu Gln Arg Glu Trp Leu Ser Tyr Gly Cys

50 55 60

Val Gly Val Thr Trp Val Asn Ser Gly Gln Tyr Pro Thr Asn Arg Leu

65 70 75 80

Ala Phe Ala Ser Phe Asp Glu Asp Arg Phe Lys Asn Glu Leu Lys Asn

85 90 95

Gly Arg Pro Arg Ser Gly Glu Thr Arg Ala Glu Phe Glu Gly Arg Val

100

105

110

Ala Lys Glu Ser Phe Asp Glu Glu Lys Gly Phe Gln Arg Ala Arg Glu

115

120

125

Val Ala Ser Val Met Asn Arg Ala Leu Glu Asn Ala His Asp Glu Ser

130

135

140

Ala Tyr Leu Asp Asn Leu Lys Lys Glu Leu Ala Asn Gly Asn Asp Ala

145

150

155

160

Leu Arg Asn Glu Asp Ala Arg Ser Pro Phe Tyr Ser Ala Leu Arg Asn

165

170

175

Thr Pro Ser Phe Lys Glu Arg Asn Gly Gly Asn His Asp Pro Ser Arg

180

185

190

Met Lys Ala Val Ile Tyr Ser Lys His Phe Trp Ser Gly Gln Asp Arg

195

200

205

Ser Ser Ser Ala Asp Lys Arg Lys Tyr Gly Asp Pro Asp Ala Phe Arg

210

215

220

Pro Ala Pro Gly Thr Gly Leu Val Asp Met Ser Arg Asp Arg Asn Ile

225

230

235

240

Pro Arg Ser Pro Thr Ser Pro Gly Glu Gly Phe Val Asn Phe Asp Tyr

245

250

255

Gly Trp Phe Gly Ala Gln Thr Glu Ala Asp Ala Asp Lys Thr Val Trp

260

265

270

Thr His Gly Asn His Tyr His Ala Pro Asn Gly Ser Leu Gly Ala Met

275

280

285

His Val Tyr Glu Ser Lys Phe Arg Asn Trp Ser Glu Gly Tyr Ser Asp

290

295

300

Phe Asp Arg Gly Ala Tyr Val Ile Thr Phe Ile Pro Lys Ser Trp Asn

305

310

315

320

Thr Ala Pro Asp Lys Val Lys Gln Gly Trp Pro

325

330

INFORMATION FOR SEQ ID NO:2:

SEQUENCE CHARACTERISTICS:

LENGTH: 993

TYPE: nucleic acid

STRANDEDNESS: double

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

FEATURE

FEATURE KEY: CDS

LOCATION: 1..993

IDENTIFICATION METHOD: S

SEQUENCE DESCRIPTION: SEQ ID NO:2

10-1000-0450000

GAT TCT GAC GAT CGT GTT ACT CCA CCA GCT GAA CCA CTG GAT CGT ATG

48

Asp Ser Asp Asp Arg Val Thr Pro Pro Ala Glu Pro Leu Asp Arg Met

1

5

10

15

CCA GAT CCA TAT CGT CCA TCT TAT GGT CGT GCT GAA ACT GTT GTT AAT

96

Pro Asp Pro Tyr Arg Pro Ser Tyr Gly Arg Ala Glu Thr Val Val Asn

20

25

30

AAT TAT ATT CGT AAA TGG CAA CAA GTT TAT TCT CAT CGT GAT GGT CGT

144

Asn Tyr Ile Arg Lys Trp Gln Gln Val Tyr Ser His Arg Asp Gly Arg

35

40

45

AAA CAA CAA ATG ACT GAA GAA CAA CGT GAA TGG CTG TCT TAT GGT TGC

192

Lys Gln Gln Met Thr Glu Glu Gln Arg Glu Trp Leu Ser Tyr Gly Cys

50

55

60

GTT GGT GTT ACT TGG GTT AAC TCT GGT CAG TAT CCG ACT AAC CGT CTG

240

Val Gly Val Thr Trp Val Asn Ser Gly Gln Tyr Pro Thr Asn Arg Leu

65

70

75

80

GCA TTC GCT TCC TTC GAT GAA GAT CGT TTC AAG AAC GAA CTG AAG AAC

288

Ala Phe Ala Ser Phe Asp Glu Asp Arg Phe Lys Asn Glu Leu Lys Asn

85

90

95

180

185

190

ATG AAA GCT GTT ATC TAC TCT AAA CAT TTC TGG TCT GGT CAG GAT AGA

624

Met Lys Ala Val Ile Tyr Ser Lys His Phe Trp Ser Gly Gln Asp Arg

195

200

205

TCT TCT TCT GCT GAT AAA CGT AAA TAC GGT GAT CCG GAT GCA TTC CGT

672

Ser Ser Ser Ala Asp Lys Arg Lys Tyr Gly Asp Pro Asp Ala Phe Arg

210

215

220

CCG GCT CCG GGT ACT GGT CTG GTA GAC ATG TCT CGT GAT CGT AAC ATC

720

Pro Ala Pro Gly Thr Gly Leu Val Asp Met Ser Arg Asp Arg Asn Ile

225

230

235

240

CCG CGT TCT CCG ACT TCT CCG GGT GAA GGC TTC GTT AAC TTC GAT TAC

768

Pro Arg Ser Pro Thr Ser Pro Gly Glu Gly Phe Val Asn Phe Asp Tyr

245

250

255

GGT TGG TTC GGT GCT CAG ACT GAA GCT GAT GCT GAT AAG ACT GTA TGG

816

Gly Trp Phe Gly Ala Gln Thr Glu Ala Asp Ala Asp Lys Thr Val Trp

260

265

270

ACC CAT GGT AAC CAT TAC CAT GCT CCG AAC GGT TCT CTG GGT GCT ATG

864

[illegible]

Thr His Gly Asn His Tyr His Ala Pro Asn Gly Ser Leu Gly Ala Met
 275 280 285

CAT GTA TAC GAA TCT AAA TTC CGT AAC TGG TCT GAA GGT TAC TCT GAC
 912
 His Val Tyr Glu Ser Lys Phe Arg Asn Trp Ser Glu Gly Tyr Ser Asp
 290 295 300

TTC GAT CGT GGT GCT TAC GTT ATC ACC TTC ATT CCG AAA TCT TGG AAC
 960
 Phe Asp Arg Gly Ala Tyr Val Ile Thr Phe Ile Pro Lys Ser Trp Asn
 305 310 315 320

ACT GCT CCG GAC AAA GTT AAA CAG GGT TGG CCG
 993
 Thr Ala Pro Asp Lys Val Lys Gln Gly Trp Pro
 325 330

INFORMATION FOR SEQ ID NO:3:

SEQUENCE CHARACTERISTICS:

LENGTH: 1518

TYPE: nucleic acid

STRANDEDNESS: double

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

FEATURE

FEATURE KEY: CDS

LOCATION: 87..1082

03684949 - 03684951

3 4

CGT TTC AAG AAC GAA CTG AAG AAC GGT CGT CCG CGT TCT GGT GAA ACT

GGT CAG TAT CCG ACT AAC CGT CTG GCA TTC GCT TCC TTC GAT GAA GAT

353

Gly Gln Tyr Pro Thr Asn Arg Leu Ala Phe Ala Ser Phe Asp Glu Asp

75

80

85

CGT TTC AAG AAC GAA CTG AAG AAC GGT CGT CCG CGT TCT GGT GAA ACT

401

Arg Phe Lys Asn Glu Leu Lys Asn Gly Arg Pro Arg Ser Gly Glu Thr

90

95

100

105

CGT GCT GAA TTC GAA GGT CGT GTT GCT AAG GAA TCC TTC GAT GAA GAG

449

Arg Ala Glu Phe Glu Gly Arg Val Ala Lys Glu Ser Phe Asp Glu Glu

110

115

120

AAA GGC TTC CAG CGT GCT CGT GAA GTT GCT TCT GTT ATG AAC CGT GCT

497

Lys Gly Phe Gln Arg Ala Arg Glu Val Ala Ser Val Met Asn Arg Ala

125

130

135

CTA GAG AAC GCT CAT GAT GAA TCT GCT TAC CTG GAT AAC CTG AAG AAG

545

Leu Glu Asn Ala His Asp Glu Ser Ala Tyr Leu Asp Asn Leu Lys Lys

140

145

150

GAA CTG GCT AAC GGT AAC GAT GCT CTG CGT AAC GAA GAT GCT CGT TCT

593

Glu Leu Ala Asn Gly Asn Asp Ala Leu Arg Asn Glu Asp Ala Arg Ser

165

641

185

689

200

737

215

785

230

833

245

881

Glu Gly Phe Val Asn Phe Asp Tyr Gly Trp Phe Gly Ala Gln Thr Glu
250 255 260 265

GCT GAT GCT GAT AAG ACT GTA TGG ACC CAT GGT AAC CAT TAC CAT GCT
929

Ala Asp Ala Asp Lys Thr Val Trp Thr His Gly Asn His Tyr His Ala
270 275 280

CCG AAC GGT TCT CTG GGT GCT ATG CAT GTA TAC GAA TCT AAA TTC CGT
977

Pro Asn Gly Ser Leu Gly Ala Met His Val Tyr Glu Ser Lys Phe Arg
285 290 295

AAC TGG TCT GAA GGT TAC TCT GAC TTC GAT CGT GGT GCT TAC GTT ATC
1025

Asn Trp Ser Glu Gly Tyr Ser Asp Phe Asp Arg Gly Ala Tyr Val Ile
300 305 310

ACC TTC ATT CCG AAA TCT TGG AAC ACT GCT CCG GAC AAA GTT AAA CAG
1073

Thr Phe Ile Pro Lys Ser Trp Asn Thr Ala Pro Asp Lys Val Lys Gln
315 320 325

GGT TGG CCG TAATGAAAGC TTGGATCTCT AATTACTGGA CTTCACACAG ACTAAAATAG
1131

Gly Trp Pro
330

ACATATCTTA TATTATGTGA TTTTGTGACA TTCCTAGAT GTGAGGTGGA GGTGATGTAT

0123456789ABCDEFGHI

1191

AAGGTAGATG ATGATCCTCT ACGCCGGACG CATCGTGGCC GGCATCACCG GCGCCACAGG

1251

TGCGGTTGCT GCGGCCTATA TCGCCGACAT CACCGATGGG GAAGATCGGG CTCGCCACTT

1311

CGGGCTCATG AGCGCTTGTT TCGGCGTGGG TATGGTGGCA GCGCCCGTGG CCGGGGGACT

1371

GTTGGGCGCC ATCTCCTTGC ATGCACCATT CCTTGCGGCG GCGGTGCTCA ACGGCCTCAA

1431

CCTACTACTG GGCTGCTTCC TAATGCAGGA GTCGCATAAG GGAGAGCGTC GAGAGCCCGC

1491

CTAATGAGCG GGCTTTTTTT TCAGCTG

1518

INFORMATION FOR SEQ ID NO:4:

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE:nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:4

AATTCATCGA TTAGTAAGGA GGTTTAAAT GGATTCTGA

39

INFORMATION FOR SEQ ID NO:5:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:5

CGATCGTCAG AATCCATTTT AAACCTCCTT ACTAATCGAT G

41

INFORMATION FOR SEQ ID NO:6:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:6

CGATCGTGTT ACTCCACCAG CTGAACCACT GGATCGTATG C

41

INFORMATION FOR SEQ ID NO:7:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:7

GATCTGGCAT ACGATCCAGT GGTTGAGCTG GTGGAGTAAC A

41

INFORMATION FOR SEQ ID NO:8:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:8

CAGATCCATA TCGTCCATCT TATGGTCGTG CTGAAACTGT T

41

INFORMATION FOR SEQ ID NO:9:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:9

ATTAACAACA GTTTCAGCAC GACCATAAGA TGGACGATAT G

41

INFORMATION FOR SEQ ID NO:10:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:10

GTTAATAATT ATATTCGTAA ATGGCAACAA GTTTATTCTC A

41

INFORMATION FOR SEQ ID NO:11:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:11

TCACGATGAG AATAAACTTG TTGCCATTTA CGAATATAAT T

INFORMATION FOR SEQ ID NO:12:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:12

TCGTGATGGT CGTAAACAAC AAATGACTGA AGAACACGT G

41

INFORMATION FOR SEQ ID NO:13:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:13

GCCATTACAG TTGTTCTTCA GTCATTGTGT GTTACGACC A

41

INFORMATION FOR SEQ ID NO:14:

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:14

AATGGCTGTC TTATGGTTGC GTTGGTGTTA CTGGGGTTAA CA

42

INFORMATION FOR SEQ ID NO:15:

SEQUENCE CHARACTERISTICS:

LENGTH:40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:15

AGCTTGTTAA CCCAAGTAAC ACCAACGCAA CCATAAGACA

40

INFORMATION FOR SEQ ID NO:16:

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:16

AATTCGTAA CTCGGTCAG TATCCGACTA ACCGTC TG

38

INFORMATION FOR SEQ ID NO:17:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:17

CGAATGCCAG ACGGTTAGTC GGATACTGAC CAGAGTTAAC G

41

INFORMATION FOR SEQ ID NO:18:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:18

GCATTGCGTT CCTTCGATGA AGATCGTTTC AAGAACGAAC TGAAGAACG

49

INFORMATION FOR SEQ ID NO:19:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:19

GGACGACCGT TCTTCAGTTC GTTCTTGAAA CGATCTTCAT CGAAGGAAG

49

INFORMATION FOR SEQ ID NO:20:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:20

GTCGTCGCG TTCTGGTGAA ACTCGTGCTG AATTC

INFORMATION FOR SEQ ID NO:21:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:21

GACCTTCGAA TTCAGCACGA GTTTCACCAG AACGC

35

INFORMATION FOR SEQ ID NO:22:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:22

GAAGGTCGTG TTGCTAAGGA ATCCTTCGAT GAAGAGAAAG GCTTCCAG

48

INFORMATION FOR SEQ ID NO:23:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:23

GAGCACGCTG GAAGCCTTTC TCTTCATCGA AGGATTCCTT AGCAACAC

48

INFORMATION FOR SEQ ID NO:24:

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:24

CGTGCTCGTG AAGTTGCTTC TGTATGAAC CGTGCTCTAG AA

42

INFORMATION FOR SEQ ID NO:25:

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:25

AGCTTCTAG AGCACGGTTC ATAACAGAAG CAACTTCAC

39

INFORMATION FOR SEQ ID NO:26:

SEQUENCE CHARACTERISTICS:

LENGTH:45

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:26

AATTCTCTAG AGAACGCTCA TGATGAATCT GCTTACCTGG ATAAC

45

INFORMATION FOR SEQ ID NO:27:

SEQUENCE CHARACTERISTICS:

LENGTH:50

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:27

CTTCTTCAGG TTATCCAGGT AAGCAGATTC ATCATGAGCG TTCTCTAGAG

50

INFORMATION FOR SEQ ID NO:28:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:28

CTGAAGAAGG AACTGGCTAA CGGTAACGAT GCTCTGCGTA ACGAAGATG

49

INFORMATION FOR SEQ ID NO:29:

SEQUENCE CHARACTERISTICS:

LENGTH:49

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:29

GAGAACGAGC ATCTTCGTTA CGCAGAGCAT CGTTACCGTT AGCCAGTTC

INFORMATION FOR SEQ ID NO:30

SEQUENCE CHARACTERISTICS:

LENGTH:40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:30

CTCGTTCTCC GTTCTACTCT GCTCTGCGTA ACACTCCGTC

40

INFORMATION FOR SEQ ID NO:31:

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:31

CTTTGAAGGA CGGAGTGTTA CGCAGAGCAG AGTAGAACG

39

INFORMATION FOR SEQ ID NO:32:

SEQUENCE CHARACTERISTICS:

LENGTH:47

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:32

CTTCAAAGAA CGTAACGGTG GTAACCATGA TCCGTCTCGT ATGAAAG

47

INFORMATION FOR SEQ ID NO:33:

SEQUENCE CHARACTERISTICS:

LENGTH:47

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:33

GATAACAGCT TTCATACGAG ACGGATCATG GTTACCACCG TTACGTT

47

INFORMATION FOR SEQ ID NO:34:

SEQUENCE CHARACTERISTICS:

LENGTH:45

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:34

CTGTTATCTA CTCTAAACAT TTCTGGTCTG GTCAGGATAG ATCTA

45

INFORMATION FOR SEQ ID NO:35:

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:35

AGCITTAGATC TATCCTGACC AGACCAGAAA TGTTTAGAGT A

41

INFORMATION FOR SEQ ID NO:36:

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:36

AATTCAGATC TTCTTCTGCT GATAAACGTA AATACGGTGA TC

42

INFORMATION FOR SEQ ID NO:37:

SEQUENCE CHARACTERISTICS:

LENGTH:44

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:37

CATCCGGATC ACCGTATTTA CGTTTATCAG CAGAAGAAGA TCTG

44

INFORMATION FOR SEQ ID NO:38:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:38

CGGATGCATT CCGTCCGGCT CCGGGTACTG GTCTGGTAGA CATGTCTC

48

INFORMATION FOR SEQ ID NO:39:

SEQUENCE CHARACTERISTICS:

LENGTH:48

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:39

GATCACGAGA CATGTCTACC AGACCAGTAC CCGGAGCCGG ACGGAATG

48

INFORMATION FOR SEQ ID NO:40:

SEQUENCE CHARACTERISTICS:

LENGTH:35

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:40

GTGATCGTAA CATCCCGCGT TCTCCGACTT CTC CG

35

INFORMATION FOR SEQ ID NO:41:

SEQUENCE CHARACTERISTICS:

LENGTH:36

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:41

CTTCACCCGG AGAAGTCGGA GAACGCGGGA TGTTC

36

INFORMATION FOR SEQ ID NO:42:

SEQUENCE CHARACTERISTICS:

LENGTH:40

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:42

GGTGAAGGCT TCGTTAACTT CGATTACGGT TGGTTCGGTG

40

INFORMATION FOR SEQ ID NO:43:

SEQUENCE CHARACTERISTICS:

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	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
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TOPOLOGY: linear
MOLECULE TYPE: other nucleic acid synthetic DNA
SEQUENCE DESCRIPTION: SEQ ID NO:45

AGCTTCCATG GGTCCATACA GTCTTATCAG CATCAGCTTC A

41

INFORMATION FOR SEQ ID NO:46

SEQUENCE CHARACTERISTICS:

LENGTH:39

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:46

AATTCCCATG GTAACCATTA CCATGCTCCG AACGGTTCT

39

INFORMATION FOR SEQ ID NO:47

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:47

CACCCAGAGA ACCGTTCGGA GCATGGTAAT GGTACCATG GG

42

INFORMATION FOR SEQ ID NO:48

SEQUENCE CHARACTERISTICS:

LENGTH:41

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:48

CTGGGTGCTA TGCATGTATA CGAATCTAAA TTCCGTAAC T G

41

INFORMATION FOR SEQ ID NO:49

SEQUENCE CHARACTERISTICS:

LENGTH:42

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:49

CTTCAGACCA GTTACGGAAT TTAGATTCGT ATACATGCAT AG

42

INFORMATION FOR SEQ ID NO:50

SEQUENCE CHARACTERISTICS:

LENGTH:37

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:50

GTCTGAAGGT TACTCTGACT TCGATCGTGG TGCTTAC

37

INFORMATION FOR SEQ ID NO:51

SEQUENCE CHARACTERISTICS:

LENGTH:37

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:51

GTGATAACGT AAGCACCACG ATCGAAGTCA GAGTAAC

37

INFORMATION FOR SEQ ID NO:52

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:52

GTTATCACCT TCATTCCGAA ATCTTGAAC ACTGCTCC

38

INFORMATION FOR SEQ ID NO:53

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:53

CTTTGTCCGG AGCAGTGTTT CAAGATTTCG GAATGAAG

38

INFORMATION FOR SEQ ID NO:54

SEQUENCE CHARACTERISTICS:

LENGTH:38

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:54

GGACAAAGTT AACAGGGTT GGCCGTAATG AAAGCTTA

38

INFORMATION FOR SEQ ID NO:55

SEQUENCE CHARACTERISTICS:

LENGTH:34

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:55

AGCTTAAGCT TTCATTACGG CCAACCCTGT TTAA

34

INFORMATION FOR SEQ ID NO:56

SEQUENCE CHARACTERISTICS:

LENGTH:20

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:56

TTTTCCTCAGT CACGACGTTG

20

INFORMATION FOR SEQ ID NO:57

SEQUENCE CHARACTERISTICS:

LENGTH:21

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:57

CAGGAAACAG CTATGACCAT G

21

INFORMATION FOR SEQ ID NO:58

SEQUENCE CHARACTERISTICS:

LENGTH:36

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:58

TAAGGAGGTT TAAAAATGCTT GACGATCGTG TTAATC

SEQUENCE CHARACTERISTICS:

TYPE: nucleic acid

STRANDEDNESS:single

TOPOLOGY: linear

MOLECULE TYPE:other nucleic acid synthetic DNA

SEQUENCE DESCRIPTION: SEQ ID NO:59

TACGCCAAGG TTGTTAACCC A

21